DECISION DOCUMENT FOR THE APPROVAL OF OHIO'S SUBMISSION OF THE STATE'S INTEGRATED REPORT WITH RESPECT TO SECTION 303(d) OF THE CLEAN WATER ACT (CATEGORY 5 WATERS)

U.S. EPA has conducted a complete review of Ohio's 2004 Section 303(d) list and supporting documentation and information, and based upon this review U.S. EPA has determined that Ohio's list of assessment units (AU's) still requiring total maximum daily loads (TMDLs) meets the requirements of Section 303(d) of the Clean Water Act (CWA or Act), and U.S. EPA's implementing regulations. Therefore, U.S. EPA hereby approves Ohio's 2004 Section 303(d) list. Ohio's list of AUs still requiring TMDLs appears in Category 5 of the Ohio 2004 Integrated Water Quality Monitoring and Assessment Report (Integrated Report), and U.S. EPA's approval extends only to the AUs in Category 5 of the Integrated Report (IR). The statutory and regulatory requirements, and U.S. EPA's review of Ohio's compliance with each requirement, are described in detail below.

I. Statutory and Regulatory Background

Identification of Water Quality Limited Segments (WQLSs) for Inclusion on Section 303(d) List

Section 303(d)(1) of the Act directs states to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standards, and to establish a priority ranking for such water, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to U.S. EPA's long-standing interpretation of Section 303(d).

U.S. EPA regulations provide that states do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act; (2) more stringent effluent limitations required by state or local authority; and (3) other pollution control requirement required by state, local, or federal authority, as found in 40 C.F.R. §130.7(b)(1).

Consideration of Existing and Readily Available Water Quality-Related Data and Information

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of water: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the state's most recent Section 305(b) report; (2) waters for which dilution

calculations or predictive models indicate nonattainment of applicable standards; (3) waters for which quality problems have been reported by government agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in a nonpoint assessment submitted to U.S. EPA. under Section 319 of the Act (40 C.F.R. §130.7(b)(5)). In addition to these minimum categories, States are required to consider any other data and information that is existing and readily available. U.S. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available (USEPA 1991). While states are required to evaluate all existing and readily available water quality-related data and information, states may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring states to assemble and evaluate all existing and readily available water quality-related data and information, U.S. EPA regulations require states to include as part of their submissions to U.S. EPA documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. 40 C.F.R. §130.7(b)(6) states that such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information required by the Region.

Priority Ranking

U.S. EPA regulations also codify and interpret the requirements in Section 303(d)(1)(A) of the Act that states establish a priority ranking for listed waters. 40 C.F.R. §130.7(b)(4) requires states to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those AUs targeted for TMDL development in the next two years. In prioritizing and targeting waters, states must, at a minimum take into account the severity of the pollution and the uses to be made of such waters. As long as these factors are taken into account, the Act provides that states establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic and aesthetic importance of particular waters, degree of public interest and support, and state or national policies and priorities found in 57 Fed. Reg. 334040, 33045 (July 24, 1992) and U.S. EPA's 1991 Guidance.

Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information

The 303(d) list is Appendix B.2 of the 2004 Integrated Report, in compliance with Section 303(d) of the Act and 40 C.F.R. §130.7. U.S. EPA has reviewed Ohio's description of the data and information it considered, its methodology for identifying waters, and considered any other relevant information including information the State submitted in response to requests for

additional information. U.S. EPA concludes that the State of Ohio properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 C.F.R. § 130.7(b)(5). In addition, the State provided its rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters.

U.S. EPA has also determined that the State properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) of the Act and U.S. EPA guidance. Section 303(d) lists areto include all water quality limited segments (WQLSs) still needing TMDLs, regardless of whether the source of the impairment is a point and/or nonpoint source. U.S. EPA's long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. In Pronsolino v. Marcus, the Ninth Circuit Court of Appeals held that Section 303(d) of the CWA authorizes U.S. EPA to identify and establish total maximum daily loads for waters impaired by nonpoint sources.[1]

From January 12, 2004 to February 20, 2004, Ohio made available to the public its draft report "2004 Integrated Water Quality Monitoring and Assessment Report" on the internet, with a copy of the announcement in Appendix C.3. Page C.5 - 1 is a copy of the Notice. "Notice is hereby given that the Ohio Environmental Protection Agency (OEPA) Division of Surface Water (DSW) is providing for public review and comment the Total Maximum Daily Load (TMDL) priority list for 2004 as required by Section 303(d) of the Federal Water Pollution Control Act, 33 U.S.C. Section 1313(d)..... The list is contained within the *2004 Integrated Water Quality Monitoring and Assessment Report*." The newspapers which published the Notice are listed on Page C.5 - 2.

Other data collectors are listed in Section 6.1 of the 2004 IR and include the Ohio Department of Natural Resources - Division of Wildlife, Midwest Biodiversity Institute (MBI), Center for Applied Bioassessment and Biocriteria (CABB), Northeast Ohio Regional Sewer District, Miami University, and Ohio Northern University. These entities either have received intensive training and certification from Ohio EPA or are well-versed in Ohio EPA field and laboratory protocols.

[1] Pronsolino et al. v. Nastri et. al., 291 F. 3d 1123 (9th Cir, 2002); see also U.S. EPA's 1991 Guidance; and National Clarifying Guidance for 1998 Section 303(d) Lists, August 27, 1997.

II. Analysis of Ohio's Submission

Listing Methodology and Reporting

EPA issued guidance for integrating the development and submission of 2002 Section 305(b) water quality reports and Section 303(d) lists of impaired waters in U.S. EPA's 2002 Integrated Water Quality Monitoring and Assessment Report Guidance, November 19, 2001 (2001 Guidance). This guidance recommends that states develop an integrated report of the quality of their waters by placing all waters into one of five assessment categories. Ohio followed the approach set out in the integrated report guidance and put waterbodies still requiring TMDLs in Category 5 of its integrated report. This guidance has also been followed for the development of Ohio's current 2004 Integrated Report. The waterbodies in Category 5 constitute the State's Section 303(d) list.

As part of its ongoing monitoring and assessment program, the State developed a five-year rotating basin plan that divides the State into 25 areas each comprised of a group of subbasins. Monitoring takes place within five of the 25 areas each year, so that monitoring is completed throughout the State every five years. After the State completes the monitoring in one of the assessment areas, it collects the data and assesses the biological, chemical, and physical condition of the AU. The State uses an 11-digit hydrologic unit code (HUC) as part of its assessment methodology. The principal AUs within the State are divided into the following units: 331 HUCs with a median size of 130 mi^2; 23 large river units each with a drainage of at least 500 mi^2; 16 AUs on the mainstem of the Ohio River; and three AUs that incorporate the near shore of Lake Erie.

Ohio EPA's water quality reporting and listing methodology focuses on watersheds, listing assessment units (AUs), which include multiple segments. After an AU is defined, the data are collected and analyzed to determine whether the AU is supporting, partially supporting, or not supporting the designated uses within the AU. Each AU is then placed in one of the five assessment categories described in the 2001 Guidance. Biological sampling is conducted extensively throughout the State to determine each AU's status for aquatic life use. Chemical and physical sampling is also conducted as part of the assessment process. Ohio has an extensive data base on aquatic life use. The State has been collecting data for aquatic life use for over 20 years.

As part of the assessment process, Ohio has a Stream Regionalization Project to select reference, or least impacted sites, in each of Ohio's five ecoregions. Based on the results of this effort ecoregion-specific biocriteria were developed. For a sampling site to be classified as being in

full attainment it must meet the relevant criteria of all three indices, the Index of Biotic Integrity (IBI), the Modified Index of Well-being (MIWb), and the Invertebrate Community Index (ICI) (OEPA 1999). An AU is determined to be in partial attainment if only one criterion is not achieved, while non-attainment results when all biological scores are less than the criteria or if very poor scores are attributed to either fish or macroinvertebrate communities. These biocriteria are codified in Ohio's water quality standards (OAC 3746-1-07, Table 7-16).

The status and reporting category for each of the 331 HUCs are listed in Appendix B.1.1 to the Integrated Report, and the status and reporting category for the 23 large river units are listed in Appendix B.1.2 of the Integrated Report. For the near shore of Lake Erie (i.e., within 100 meters of the shoreline), the Integrated Report includes three AUs (i.e., Western Basin, Islands, and Central Basin) that are newly listed in Appendix B.2 of the Integrated Report based on the associated HUC along the shore.

Ohio River Listing

The 16 AUs associated with the main stem of the Ohio River are assessed by the Ohio River Sanitation Commission (ORSANCO), which reports its findings in a Section 305(b) report. ORSANCO is an interstate agency charged with abating existing pollution in the Ohio River Basin and preventing future degradation of its waters. ORSANCO was established in 1948 through the signing of the Ohio River Valley Water Sanitation Compact by representatives of the eight member states. Through this Compact, ORSANCO has been given authority to develop the Section 305(b) report for the Ohio River. In the past, Ohio EPA has narratively incorporated ORSANCO's listing of impaired waters into its Integrated Report for those portions of the Ohio River located within the State of Ohio. Section 6.6 of the 2004 IR states that the ORSANCO document is currently in preparation stages so OEPA does not have the ORSANCO listing, which will be located in *Biennial Assessment of Ohio River Water Quality Conditions, 2002-2003.*

Table 1

Beneficial Use Category	Key Attributes, or why a water would be designated in the category	Evaluation status in 2004 Integrated Report
Categories for the protection of aquatic life		
Coldwater Habitat	native cold water or cool water species; put-and-take trout stocking	Assessed on case by case basis
Seasonal Salmonid Habitat	supports lake run steelhead trout fisheries	No direct assessment, streams assessed as EWH or WWH
Exceptional Warmwater Habitat	unique and diverse assemblage of fish and invertebrates	69% of the Watershed Assessment Units and 96% of the Large River Assessment Units fully assessed using direct comparisons of fish and macroinvertebrate community index scores to the biocriteria in Ohio's WQS; sources and causes of impairment were assessed using biological indicators and water chemistry data
Warmwater Habitat (WWH)	typical assemblages of fish and invertebrates	
Modified Warmwater Habitat	tolerant assemblages of fish and macro-invertebrates; irretrievable condition precludes WWH	
Limited Resource Waters	fish and macroinvertebrates severely limited by physical habitat or other irretrievable condition	Assessed on case by case basis

Lake Erie Listings

The Integrated Report assesses and lists impaired AUs for the nearshore and lacustuaries of Lake Erie. Section 6.5.5 describes the methodology and describes the "nearshore" as being within 100 meters of the shoreline. The term "lacustuary" is used in the Integrated Report to specify the zone where Lake Erie water levels have intruded into tributary river channels, and includes Maumee and Sandusky Bays. Ohio used narrative standards to determine aquatic life use impairments for the nearshore and lacustuary zones. In 1997, Ohio completed *Development of Biological Indices Using Macroinvertebrates in Ohio Nearshore Waters, Harbors, and Lacustuaries of Lake Erie in Order to Evaluate Water Quality*. In 1999, Ohio produced *Biological Monitoring and an Index of Biotic Integrity for Lake Erie's Nearshore Waters.* The data in these documents provide a foundation to establish numeric biocriteria for aquatic life in the Lake Erie AUs. Fish community data, which best represent current conditions along the Lake Erie nearshore zones, were evaluated against the numeric biocriteria for aquatic life use established in those studies. It has been determined that there is 5.7% full attainment for aquatic life use in the Western Basin, 36.4% around the Islands, and 21.5% in the Central Basin, as shown in Appendix D.4, Lake Erie Assessment Unit Summaries. The Integrated Report uses the attainment status of the adjacent HUCs to determine the status of the nearshore zones. Section 9.2 states that Lake Erie nearshore areas are assigned the priority of the appropriate surrounding or contiguous watershed assessment unit.

Below is a table of the impairments and schedule for TMDL development and monitoring for the adjacent HUCs that correspond to the nearshore AUs. A map follows which delineates the AUS into the nearshore categories of Western Basin, Central Basin and Islands as submitted by OEPA to U.S. EPA (February 2003). A schedule for TMDL development may not indicate all pollutants. Ohio develops watershed TMDLs for the limiting pollutant; in some cases developing a TMDL for one pollutant will address impairments caused by the remaining pollutants.

Table 2

Western Basin

AU (HUC)	Segment Identification	Cause/Impairments	Schedule TMDL/Monitoring
04100010-010	Lake Erie Tribs (East of Maumee River to West of Toussaint River	Unknown toxicity, Nutrients, Siltation, Flow alteration, Other Habitat Alterations, Oil and Grease	2010 TMDL 2008 monitoring
04100010-020	Toussaint Creek	Other habitat alterations	2005 TMDL 2003 monitoring
04100010-070	Portage River (downstream Sugar Creek to mouth); Lake Erie Tribs west of Marblehead	Siltation, Organic Enrichment/DO	2010 TMDL 2008 monitoring
04100011-010	Muddy Creek; Lake Erie trib (Muddy Creek to Marblehead)	Category 3	2009 monitoring
04100011-110	Green Creek	Category 3	2009 monitoring
04100011-120	Sandusky River (downstream Wolf Creek to mouth);excluding Green Creek and Sandusky R mainstem	Category 3	2009 monitoring
04100011-130	Lake Erie Tribs (East of Green Creek to west of Mills Creek	Organic Enrichment/DO, Other Habitat alterations	2011 TMDL 2009 monitoring
04100011-140	Lake Erie Tribs (West of Mills Creek to East Sawmill Creek)	Organic Enrichment/DO, Other Habitat alterations	2011 TMDL 2009 monitoring

Central Basin

AU (HUC)	Segment Identification	Causes/Impairments	Schedule TMDL/Monitoring
04100012-030	Huron River, E Br Huron River, Lake Erie tribs (E of Sawmill to W of Huron R)	Nutrients, Siltation, Other Habitat alterations, unknown	2004 TMDL 2012 monitoring
04100012-040	Lake Erie Tribs (E of Huron R to W of Vermillion R)	Nutrients, Siltation, Other Habitat Alterations	2004 TMDL 2011 monitoring
04100012-060	Vermillion River (upstream E Br to mouth)	bacteria	2004 TMDL 2011 monitoring
04110001-010	Lake Erie Tribs (E. of Vermillion R to W of Black R)	bacteria	2008 TMDL 2006 monitoring
04110001-050	West Branch Rocky River	Unknown Toxicity, Unionized Ammonia, Nutrients, Siltation, Organic Enrichment/DO, Other Habitat alterations	2005 TMDL 2011 monitoring)
04110001-070	Rocky River; Ebr Rocky R; Lake Erie Tribs (W of Porter Cr to W of Cuyahoga R.)	Unionized Ammonia, Chlorine, Nutrients, Siltation, Organic Enrichment/DO, Flow Alteration, Other Habitat Alterations	2001 TMDL 2006 monitoring
04110003-010	Lake Erie tribs(E of Cuyahoga R to W of Grand R) excluding Chagrin R	Organic Enrichment/ DO, Flow Alteration	2004 TMDL 2010 monitoring
04110003-030	Chagrin River (ds Aurora Br to mouth)	Cause unknown, Organic Enrichment/ DO, Flow Alteration, Other Habitat Alterations	2006 TMDL 2004 monitoring
04110003-040	Lake Erie trib (E of Grand R to W of Ashtabula R)	Cause Unknown, Nutrients, Organic Enrichment/DO, Flow Alteration, Other Habitat Alterations	2011 TMDL 2009 monitoring
04110004-010	Grand River (hw to ds Swine Creek)	Fish consumption	2011 TMDL 2009 monitoring
04110004-060	Grand River (ds Mill Cr to mouth); excluding Grant R. Mainstem	Cause Unknown, Organic Enrichment/DO	2006 TMDL 2004 monitoring
04120101-010	Conneaut Creek; Lake Erie Tribs (E. of Ashtabula R to W of Conneaut Cr)	Cause Unknown, Priority Organics, Metals, Other Habitat Alterations	2011 TMDL 2009 monitoring

Islands

AU (HUC)	Segment Identification	Causes/Impairment	Schedule TMDL/Monitoring
04120200-010	Lake Erie Islands	Category 3	2009 monitoring

(OEPA, February 2003)

Water Quality Standards

Ohio water quality standards have two distinct elements: designated uses, and numerical or narrative criteria designed to protect and measure attainment of the uses (OAC 3745-1-07(A)). Each water body in the State is assigned an aquatic life habitat use designation, and may be assigned one or more water supply use designation and/or one recreational use designation (OAC 3745-1-07(A)(1)). Ohio has seven tiers in its aquatic life use designation system (OAC 3745-1-07(B)(1)). In addition, the Ohio Administrative Code contains statewide chemical-specific criteria for the support of use designations (OAC 3745-1-07(A)(2)). Ohio's standards also contain numeric biological criteria that describe the expected biological performance of Ohio's wadeable and boatable rivers and streams. Ohio EPA uses the numeric biological criteria to interpret the data generated when a biological assessment of a stream is conducted (OAC 3745-1-07(A)(6)). Through a use attainability analysis, a given stream reach may be assigned an appropriate aquatic life use. Biological sampling is conducted to establish attainment status. Although chemical and physical data are also collected as part of Ohio EPA's comprehensive watershed evaluations, the performance of the fish and macroinvertebrate communities against three indices is used to determine attainment status.

Public water supply: Ohio's water quality standards state that Ohio may also designate a water body for water supply use (OAC 3745-1-07(A)(1)). Ohio has three water supply uses: public, agricultural, and industrial. A public water supply is a water that with conventional treatment will be suitable for human intake and meet federal regulations for drinking water (OAC 3745-1-07(B)(3)(a)). The 2004 IR recognizes in Section 6.2.1 that including drinking water assessments in the 305(b) report may help identify potential impairments to drinking water sources. Ohio EPA has initiated activities to develop an appropriate methodology for assessing drinking water sources as part of its 305(b)/303(d) water quality assessment and reporting process. Ohio EPA anticipates that drinking water assessments will be included in its next

Integrated Report.

Recreation: Ohio water quality standards state that Ohio may also designate a water body for recreational use (OAC 3745-1-07(A)(1)). Under the Ohio Administrative Code, recreational designations are in effect from May to mid-October (OAC 3745-1-07(B)(4)). Stream reaches are assigned an appropriate use designation and bacteriological data are collected as part of a comprehensive watershed evaluation. The past methodology used criteria and dermal advisories for listing recreational impairments.

There is a significant departure in methodology in the 2004 IR from the previous listing. First, the secondary contact criterion was dropped because it is not representative of the generally applicable designated use. Secondly, the existence of a dermal contact advisory as a trigger for recreation use impairment was also dropped because the scale of the WAUs being assessed are much larger than the six small stream segments where dermal contact advisories exist. In Section 6.4.1 Ohio states that in each case these dermal advisories exist in areas that have contaminated sediments from legacy site sources that have already been addressed through remedial actions, or are in the planning stages for such work. There is one AU affected and delisted because of the new methodology and that is Wolf Creek ((04100011 100) due to

Bathing Waters		
Indicator	Criterion (Table 7-13, OAC 3745-1-07)	Assessment Method
E. coli	geometric mean E. coli content (either MPN or MF), based on not less than five samples within a thirty-day period, shall not exceed 126 per 100 ml and E. coli content (either MPN or MF) shall not exceed 235 per 100 ml in more than ten per cent of the samples taken during any thirty-day period	Lake Erie beach data was extensive enough to allow direct comparisons of geometric mean to the water quality criteria of 126; running geometric means calculated to arrive at the number of days in recreational season above the criterion; threshold of 10 days above criterion considered impairment of bathing water use.

insufficient data requirements for the new methodology.

Primary Contact		
Indicator	Criterion (Table 7-13, OAC 3745-1-07)	Assessment Method
Fecal coliform	geometric mean fecal coliform content (either MPN or MF), based on not less than five samples within a thirty-day period, shall not exceed 1,000 per 100 ml and fecal coliform content (either MPN or MF) shall not exceed 2,000 per 100 ml in more than ten per cent of the samples taken during any thirty-day period	Statewide data on rivers and streams was not extensive enough to allow direct comparison of geometric mean to the water quality criterion of 1000; data pooled from all sources over period of record; thresholds used for impairment of primary contact use were 75th percentile compared to 1000 and 90th percentile compared to 2000.

Table 7-5 below is from Section 6.4.2 of the 2004 IR and shows the Lake Erie assessment units and locations, as previously shown on the map, for 22 beach locations. The table shows the percentage of recreation days during which the bathing water geometric mean water quality criteria of 126/100ml exceeded. This is the first listing cycle where beach bacteria analysis was used.

In Section 6.4.3, recreational use evaluation of rivers and streams are discussed. There is a significant increase in the amount of data analyzed from STORET and SWIMS databases. Statistical analysis performed were the geometric mean, median, 75th percentile, and 90th percentile of the fecal coliform data. The recreational use was determined by comparing the 75th percentile to the Ohio geometric mean fecal coliform criterion of 1,000 and 90th percentile was compared to the single sample maximum criterion of 2,000. Impairment was determined when either percentile exceeded the criterion. The use of the new criteria and greater amounts of

Table 7-5. Bathing water geometric mean *E. coli* exceedence frequency at 22 Lake Erie beaches from 1999-2003 pooled by Lake Erie assessment unit to report attainment status.

	Western Basin	Central Basin	Lake Erie Islands
Number of beaches	8	12	2
Total recreation days	3,914	5,767	911
Total days in exceedence	437	1,133	0
Exceedence percentage	11.2%	19.6%	0%
Average # of days E. coli criteria exceeded per beach per season [1]	11	19	0
Attainment status	Non attainment	Non attainment	Full attainment

[1] Divide the total days in exceedence in a basin by the number of beaches in the basin, and then divide that result by the number of seasons (5) from which the exceedence data were accumulated.

data, and the resultant impairments for recreational use, are shown in Tables 7-6 and 7-7.

Table 7-6. Overall differences in the assessment of recreation use attainment, 2002 to 2004.

	2002 Report		2004 Report	
	number	percentage	number	percentage
Total AUs	354	100	354	100
Assessed	56	16	166	47
Attaining Recreation Use	10	3 (18)	56	15 (33)
Impaired Recreation Use	46	13 (82)	110	31 (67)
Not Assessed	298	84	188	53

Table 7-7. Assessment units listed as impaired for recreation use in 2002 and found to be in attainment in the 2004 report.

Assessment Unit	Location Description	2002 # Samples FC > 5,000	2004 Results		
			# site/ # samples	Percentile values	
				75th	90th
04110002 010	Cuyahoga River (headwaters to downstream Black Brook)	13	19 / 168	580	1100
04110002 030	Cuyahoga River (downstream Breakneck Creek to downstream Little Cuyahoga River)	35	11 / 345	360	1687
05060001 120	Olentangy River (downstream Delaware Run to the mouth)	7	42 / 392	626	1692
05060001 180	Walnut Creek (downstream Sycamore Creek to the mouth)	9	6 / 96	565	1600

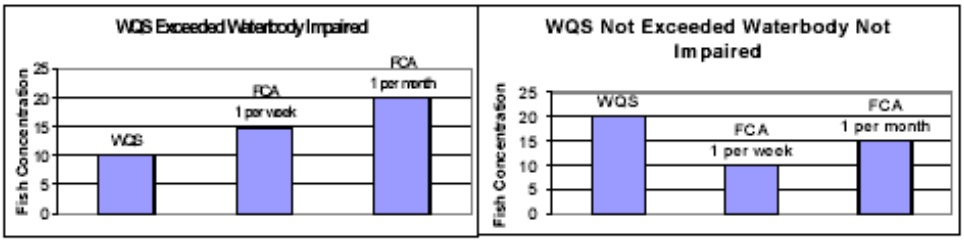
Wetlands: In 1998, Ohio established wetland water quality standards. Narrative criteria have been codified which protect the functional and recreational aspects of designated wetlands. Ohio expects to establish numeric biological criteria in the future. Ohio has assessed 121 wetlands, however, attainment status has not been determined. The Integrated Report states that Ohio EPA will determine the status of these wetlands after further advances in wetland water quality standards have been made.

Inland lakes and reservoirs: In the past, lake evaluations were to be used toward developing and applying the Lake Condition Index (LCI), which characterizes overall lake health and to assess beneficial use status. OEPA hoped to include lakes in this reporting cycle, but due to limited resources OEPA could not include inland lakes and reservoirs for this IR.

Fish Consumption Advisories: An important change in this reporting cycle is that Ohio considers FCAs as an impairment of the human health based water quality criteria in situations where the advisory is less protective than WQS criterion. The 2002 IR did not consider fish consumption advisories (FCAs) in the listing methodology. This new 2004 methodology affected 11 of 17 of the additional category 5 waters that U.S. EPA had recommended in its 2002 IR review. Since that time the partial disapproval due to this FCA issue is no longer relevant as the new 2004 IR supercedes the 2002 IR. U.S. EPA concurs with Ohio's FCA methodology for listing. The following Table and Figure 6-2 illustrate the methodology from Section 6.3.2. Note that criteria for different AUS or basins may differ.

Section 6.3.2 of the 2004 IR describes the rationale and evaluation method for placing new waters in the IR. Ohio's WQS regulations do not describe human consumption of sport fish as an explicit element of aquatic life protection. However, the WQS do include human health criteria that are applicable to all surface waters of the State. For Ohio, a FCA is determined based on the quantity of chemical fish, such as micrograms of chemical per kilogram of fish tissue (μg/kg). WQS, on the other hand, are expressed as the quantity of chemical in water, such as micrograms of chemical per liter of water (μg/l). The information used to calculate the human health nondrinking WQS criterion can be used to calculate a maximum safe fish concentration. That fish concentration value can then be directly compared to the FCA program values to determine whether the advisory is less or more protective than the WQS criterion. Using this rationale, Ohio had 11 additional Category 5 waters, because in these cases the FCA was less protective than the WQS.

Figure 6-2. Illustration of the relationship among the water quality standard (WQS) values, the values that trigger issuance of fish consumption advisories (FCAs) and the resulting decision regarding waterbody impairment associated with an FCA.



Basin / Parameter	Fish concentration on which the WQS is based [1]	Range of fish concentrations triggering an "eat no more than one meal per week" advisory	Range of fish concentrations triggering an "eat no more than one meal per month" advisory
Lake Erie / PCB	23 ug/kg	50 - 220 ug/kg	221 - 1,000 ug/kg
Ohio River / PCB	54 ug/kg	50 - 220 ug/kg	221 - 1,000 ug/kg
Lake Erie / mercury	350 ug/kg	50 - 220 ug/kg	221 - 1,000 ug/kg
Ohio River / mercury	1,000 ug/kg	50 - 220 ug/kg	221 - 1,000 ug/kg
Lake Erie / lead [2]	2,000 ug/kg	86 - 371 ug/kg	372 - 1,609 ug/kg
Ohio River / hexachlorobenzene[3]	67ug/kg	800 - 3,499 ug/kg	3,500 - 15,099 ug/kg

values — advisory is less protective than WQS criterion, WQS exceeded, waterbody impaired

values — advisory may be more, or less, protective than WQS criterion

values — advisory is more protective than WQS criterion, WQS not exceeded, no impairment from FCA

[1] See Appendix A.1 for an explanation of how these concentrations were calculated.
[2] There is no Ohio human health non-drinking water criterion for lead in the Ohio River basin.
[3] There are no FCAs for hexachlorobenzene in the Lake Erie basin.

The 7-3 on the next page shows those waters affected by the FCA. Note that some of the waters remain on the 303(d) list due to other impairments. The last five waters are those delisted, portions of the LittleMiami River, Paint Creek, Stillwater River, St. Mary's River, and Symmes Creek.

Removal of Waters from the 303(d) List

The State has also demonstrated good cause for not including certain waters that were previously listed on Ohio's 2002 303(d) list. These previously listed waters are in Tables 8-1, 8-2, 8-3, and 8-4 of the Integrated Report. As provided in 40 C.F.R. § 130.7(b)(6)(iv), U.S. EPA requested that the State demonstrate good cause for not including these waters on its 2004 Section 303(d) list. Table 8-2 is discussed as possibly not being considered a true delisting because these waterbodies were not officially listed in the Ohio 2002 IR but recommended to be listed by the U.S. EPA at that time due to FCAs. Since that time the partial disapproval due to this FCA issue is no longer relevant as the new 2004 IR supercedes the 2002 IR, and more importantly, U.S. EPA concurs with Ohio's new FCA methodology for listing. Table 8-2 is shown in the bottom portion of Table 7-3 below, the delistings.

Table 7-3. Waters preliminarily listed in category 5 by U.S. EPA in 2003 due to fish consumption advisory (FCA) that are not impaired using 2004 methodology

Assessment Unit	Pollutant	Advisory Level(s): one meal per	Reasons for non impairment decision relative to FCA for pollutant listed:	2004 Category
Waters remaining on list for reasons other than FCA				
E. Br. Black River 04110001-030	mercury	month	For mercury in the Lake Erie basin the "once per month" advisory level could be more protective, or less protective, than the WQS. In this situation, the highest species average mercury value was 355 ug/kg, more protective than the concentration on which the WQS is based, 350 ug/kg.	5
Little Miami River 05090202-020	mercury lead	month week	The "once per month" level for mercury in the Ohio River basin is more protective than the WQS. For lead, there is no WQS criterion.	5
Little Scioto River 05090103-040	mercury	month	The "once per month" level for mercury in the Ohio River basin is more protective than the WQS.	5
Vermillion River 04100012-050 04100012-060	mercury	month	For mercury in the Lake Erie basin the "once per month" advisory level could be more protective, or less protective, than the WQS. In this situation, the highest species average mercury value was 285 ug/kg, more protective than the concentration on which the WQS is based, 350 ug/kg.	5
Waters being delisted; see Section 8.3.1				

The Integrated Report states that segments in 10 AUS are removed from the 2002 Section 303(d) list. The State describes three reasons for the delisting: errors in the original analysis (2 AUS), development of new listing methodology (6 AUS), and approval of TMDLs by U.S. EPA (2 AUS). Two watersheds that were removed due to errors in prior analysis are the Kokosing River (headwaters to upstream North Branch), and Ohio River tributaries (downstream Ohio Brush Creek to upstream Eagle Creek). Five are now delisted because of new methodology in linking the FCA to Ohio's WQS, as described in Section 6.3 of the 2004 IR, and have no other impairments identified. They include two segments of the Little Miami River, the Paint Creek Mainstem, St. Mary's River, and Symmes Creek. Another segment, Wolf Creek, was delisted due to new methodology that determined it is not impaired for recreational use. The final two delistings due to TMDL approval are the Lower Cuyahoga and East Fork Duck Creek.

Waters Meeting Water Quality Standards

The State's decision not to include two segments of the Little Miami River, the Paint Creek Mainstem, St. Mary's River, and Symmes Creek on its 2004 Section 303(d) list is consistent with EPA regulation at 40 CFR130.7(b)(1). These waters do not have impairment relative to the FCAs, because the level for mercury in the advisory is more protective than the standard, and no other impairments are identified. These waters were identified by USEPA in the 2002 list as being impaired due to FCAs. Under 40 CFR 130.7(b)(1), States are not required to list WQLSs still requiring TMDLs where effluent limitations required by the CWA, more stringent effluent limitations required by State or local authority, or other pollution control requirement required by State, local, or federal authority, are stringent enough to implement applicable water quality standards. The regulation does not specify the time frame in which these various requirements must implement applicable water quality standards to support a State's decision not to list particular waters.

Waters listed on Section 4C of the Integrated Report; Pollution not Pollutant

EPA recognizes that the State included in the 2004 Section 303(d) list some WQLSs beyond those that are required by EPA regulation. E.g., waters where there is no pollutant associated with the impairment. States and territories should consider scheduling these waters for monitoring to confirm that there continues to be no pollutant-caused impairment and to support appropriate water quality management actions to address the cause(s) of impairment. While EPA is not taking any action to approve or disapprove the State's list due to the inclusion of such waters, neither the State nor EPA has an obligation under current EPA regulations to develop TMDLs for such waters because the waters are not impaired by a pollutant. States have the discretion under Section 303(d) which charges States with the primary responsibility to identify WQLSs for such waters because the waters are not impaired by a pollutant. States have the discretion under Section 303(d), which charges States with the primary responsibility to identify WQLSs for TMDL development, and Section 510, which authorizes the States to adopt more stringent pollution controls, to include waters on their Section 303(d) lists that may not be

required to be included by current EPA regulations, and EPA's regulations do not compel the Agency to disapprove the State's list because of the inclusion of such waters. EPA guidance also recognizes that States may take a conservative, environmentally protective approach in identifying waters on their Section 303(d) lists. See National Clarifying guidance for 1998 Section 303(d) lists, Aug. 27, 1997.

Ohio had only one listing of AU 05030103 040 for the Mahoning River (downstream West Branch to upstream Duck Creek) and AU 05080001 002 for the Stillwater River Mainstem (downstream Greenville Creek to mouth) in the 2002 IR. The current report has only the Stillwater River listed in the 2004 IR under Category 4C due to the FCA, because the level for mercury in the advisory is more protective than the standard.

Waters Subject to Other Pollution Control Requirements Stringent Enough to Implement any Water Quality Standards, 40 CFR 130.7(b)(1)(iii)

Under 40 C.F.R. 130.7(b)(1), States are not required to list WQLSs still requiring TMDLs where effluent limitations required by the CWA, more stringent effluent limitations required by State or local authority, or other pollution control requirements required by State, local, or federal authority, are stringent enough to implement applicable water quality standards. The regulation does not specify the time frame in which these various requirements must implement applicable water quality standards to support a State's decision not to list particular waters.

Section 4.3.1 of the 2004 IR states that in State Fiscal Year 2002 the Water Pollution Control Loan Fund (WPCLF) more than $10.6 million was awarded for 10 Water Resource Restoration Sponsor Program (WRRSP) projects. They include a Kent dam project, acquisition of Bass Lake in the Chagrin River watershed, clean-up on abandoned hazardous waste sites, development of a Harrison County closure and post-closure plan, capping a contaminated soil residue site and addressing ground water plumes, septic system improvements, and agricultural best management practices.

Monitoring should be scheduled for these waters to verify that the water quality standard is attained as expected in a reasonable time frame. Where standards will not be attained through implementation of the requirements listed in 40 C.F.R. 130.7(b)(1) in a reasonable time, it is appropriate for the water to be placed on the Section 303(d) list to ensure that implementation of the required controls and progress towards compliance with applicable standards is tracked. If it is determined that the water is, in fact, meeting applicable standards when the next Section 303(d) list is developed, it would be appropriate for the State to remove the water from the list at that time.

Public Comments on Listing Decisions

During the public comment period the State received comments, including commentsthat expressed concern that all data were not assessed and that certain waterbodiesshould be included or removed from the 303(d) list. The State responded to allof the public comments and addressed its decisions to not consider certain data,or list certain waterbodies on its 2004 Section 303(d) list. Comments and OhioEPA's responses were included in the Integrated Report at Appendix C.6. Some of the comments resulted in changes to the text or data used in the final IR. The State has demonstrated, to U.S. EPA's satisfaction, good cause for its listing decisions in the2004 Section 303(d) list at Appendix C.1 from the external advisory group, recommending points related to monitoring and data, priority setting, and public involvement.

Priority Ranking and Targeting

U.S. EPA also reviewed the State's priority ranking of listed waters for TMDL development, and concludes that the State properly took into account the severity of pollution and the uses to be made of such waters, as well as other relevant factors such as status of recreation use, and the status of aquatic life. For inland lakes and near shore of Lake Erie (including Maumee Bay) the waterbodies were assigned the same priority as the surrounding, or contiguous 11 digit HUC. Ohio gave the open waters of Lake Erie and the Ohio River a low priority.

For the remaining waters on Category 5 of the Integrated Report the State used a point system to determine the priority ranking of the AUS. Ohio EPA developed a point system totaling a maximum of 13 possible points (1 being the lowest priority and 13 being the highest). The maximum points distributed was 12. The points were distributed as follows, and can be found in Section 9.2 of the 2004 IR.

7 points given to any AU where a Recreation Use was identified;
3 points given to any AU that had a 40 to 79 score in the determination for the Aquatic Life Use;
2 points given to any AU that had a 80 to 90 score in the determination for the Aquatic Life Use;
1 point given to any AU that had a 0 to 39 score in the determination for the Aquatic Life Use;
1 point given to any AU where over half of the Aquatic Life Use"non-attainment" is "partial" ;
1 point given to any AU with a fish consumption advisory; and 1 point given to any AU where

recent data, sufficient to proceed with a TMDL, are available.

In addition, U.S. EPA reviewed the State's identification of WQLSs targeted for TMDL development in the next two years, and concludes that the targeted waters are appropriate for TMDL development in this time frame. Ohio considered various factors in developing both the long term and short term schedule. Ohio is currently working on TMDLs in twenty project areas, encompassing approximately sixty AUS. These AUS include TMDLs that have already been approved.

Ohio builds on programmatic strengths in monitoring, modeling, permitting, and nonpoint source incentives to develop an integrated approach to TMDLs that aligns program goals and resources efficiently. Ohio also has an active stakeholder process for developing TMDLs. Ohio works on collecting data through the five year rotating basin plans. It takes 5 years to complete monitoring in the State. Each AU is assigned to one of the next two monitoring cycles using the following criteria: Ohio EPA's five-year Basin Monitoring Strategy; time since most recent assessment; distribution of work effort among Ohio EPA district offices; and TMDL schedule. Ohio has generated its long-term TMDL schedule based on the following criteria: existing commitments; priority ranking; presence of a funded watershed coordinator who can assist with TMDL activities; and distribution of work effort among Ohio EPA's five districts.

Table 10-2 in Section 10.3 of the 2004 IR is the short-term schedule for TMDL Development and is hereby incorporated by reference. It includes 35 segments in many subbasins of Ohio. Another portion of the table includes the schedule for TMDL development in 2005 and is hereby incorporated by reference. It includes 21 segments.

Long term schedule

U.S. EPA has received Ohio's long-term schedule for TMDL development for all waters on the State's 2004 Integrated Report for Category 5 waters and is found in Appendix B.3. As a policy matter, U.S. EPA has requested that states provide such schedules.[2] U.S. EPA is not taking any action to approve or disapprove this schedule pursuant to Section 303(d).

[2] See Memorandum from Robert Perciasepe, Assistant Administrator for Water, to Regional Administrators and Regional Water Division Directors, "New Policies for Developing and Implementing TMDLs", August 8, 1997.

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Wayland, Robert H. III. 2001. "2002 Integrated Water Quality Monitoring and Assessment Report Guidance." Memo to EPA Regional Water Management Directors; EPA Regional Science and Technology Directors; State, Territory and Authorized Tribe Water Quality Program Directors. Office of Wetlands, Oceans, and Watersheds. November 19, 2001.